

COSEWIC
Status Appraisal Summary

on the

Northern Bobwhite
Colinus virginianus

in Canada

ENDANGERED
2013

COSEWIC
Committee on the Status
of Endangered Wildlife
in Canada



COSEPAC
Comité sur la situation
des espèces en péril
au Canada

COSEWIC status appraisal summaries are working documents used in assigning the status of wildlife species suspected of being at risk in Canada. This document may be cited as follows:

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COSEWIC would like to acknowledge Sue Chiblow for writing the status appraisal summary on the Northern Bobwhite (*Colinus virginianus*) in Canada, prepared under contract with Environment Canada. This status appraisal summary was overseen and edited by Jon McCracken, Co-chair of the COSEWIC Birds Specialist Subcommittee.

For additional copies contact:

COSEWIC Secretariat
c/o Canadian Wildlife Service
Environment Canada
Ottawa, ON
K1A 0H3

Tel.: 819-953-3215
Fax: 819-994-3684
E-mail: COSEWIC/COSEPAC@ec.gc.ca
<http://www.cosewic.gc.ca>

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COSEWIC Assessment Summary

Assessment Summary – May 2013

Common name

Northern Bobwhite

Scientific name

Colinus virginianus

Status

Endangered

Reason for designation

Owing to habitat loss, this grassland bird's population has declined dramatically over historical levels and shows no sign of recovery. There is only one viable population remaining in Canada, located on Walpole Island, Ontario. The status of this species is complicated by the presence of introduced pen-reared birds whose genetic composition is believed to pose a threat to the remaining native population.

Occurrence

Ontario

Status history

Designated Endangered in April 1994. Status re-examined and confirmed in November 2003 and May 2013.



COSEWIC Status Appraisal Summary

Colinus virginianus

Northern Bobwhite

Range of occurrence in Canada: Ontario

Colin de Virginie

Status History

Designated Endangered in April 1994. Status re-examined and confirmed in November 2003 and May 2013.

Evidence (indicate as applicable):

Wildlife species:

Change in eligibility, taxonomy or designatable units:

yes no unk

Explanation: no change

Range:

Change in Extent of Occurrence (EO):

yes no unk

Change in Index of Area of Occupancy (IAO) :

yes no unk

Change in number of known or inferred current locations:*

yes no unk

Significant new survey information

yes no unk

Explanation:

In Canada, the Northern Bobwhite is still located predominantly at Walpole Island, Ontario (Figure 1). No directed surveys have been done there since the last status assessment. Virtually all records of birds that are now detected elsewhere in southern Ontario are believed to be of captive-bred origin. Such birds are raised and released for sport hunting, have poor viability in the wild, and do not maintain self-sustaining populations.

* Use the IUCN definition of "location"

Population Information:

Change in number of mature individuals:

yes no unk

Change in total population trend:

yes no unk

Change in severity of population fragmentation:

yes no unk

Change in trend in area and/or quality of habitat:

yes no unk

Significant new survey information

yes no unk

Explanation:

No targeted surveys have been done since the last status assessment, so it is unknown if the number of mature individuals has changed. The southern portion of the Wallaceburg Christmas Bird Count (CBC) circle covers part of Walpole Island. Northern Bobwhites were recorded on this CBC on most years from 1986 to 2003, with numbers ranging from 2 to 33 birds. However, from 2004 to 2010, no sightings of the species have been reported within this count area, suggesting that the local population has continued to decline. There is, however, local community knowledge that the species continues to persist at Walpole Island First Nation. This includes a report of two birds on 31 May 2006 (Mike Burrell) and three to five birds on 5 June 2012 (Joshua Vandermeulen).

The extent and quality of prairie and savannah habitats at Walpole Island First Nation have declined and are continuing to do so (COSEWIC a,b).

Threats:

Change in nature and/or severity of threats: yes no unk

Explanation: No change. The amount of prairie and savannah habitat at Walpole Island First Nation has been reduced by conversion to agriculture, housing and other land uses (COSEWIC 2010a,b). Periodic fire is necessary to maintain prairie and savannah habitats. While regular fires still occur at Walpole, their frequency is decreasing as more houses are built in prairies and savannah habitat. In addition, the non-native and invasive subspecies of Common Reed (*Phragmites australis* ssp. *australis*) is invading meadow marshes and moist prairies at Walpole Island First Nation (COSEWIC 2010a,b) and is degrading bobwhite habitat.

Dilution of the native gene pool of bobwhites through repeated reintroductions from non-native, pen-reared stocks has been continuing in many parts of southwestern Ontario, including regions surrounding Walpole Island First Nation (Hubert pers. comm. 2012).

Protection:

Change in effective protection: yes no unk

Explanation:

The Northern Bobwhite is listed as Endangered nationally and receives protection under the *Species at Risk Act*. It also receives protection under Ontario's *Endangered Species Act, 2007*. The species is now believed to be found only at Walpole Island First Nation.

Rescue Effect:

Change in evidence of rescue effect: yes no unk

Explanation: no change (rescue is not possible).

Quantitative Analysis:

Change in estimated probability of extirpation: yes no unk

Details: no change (a quantitative analysis has not been done).

Summary and Additional Considerations: [e.g., recovery efforts]

The population located on Walpole Island is the only known population in Canada. A recovery strategy for the species has been compiled and is in draft form.

Acknowledgements

Thanks to Chris Risley for providing the contacts within government who have knowledge on the Northern Bobwhite, and to the co-chairs and members of COSEWIC's Birds Subcommittee for giving the author the learning opportunity to conduct this research. Thanks also to Jon McCracken for offering his expertise.

Authorities Contacted

- Austen, Madeline. Head, Species at Risk Unit. Canadian Wildlife Service – Ontario Region. Downsview, ON.
- Badzinski, Debbie. Bird Population Biologist, Bird Studies Canada. Port Rowan, ON.
- Cannings, Russell. British Columbia Rare Bird Alerts. Naramata, BC.
- Hubert, Patrick. Avian Biologist. Ontario Ministry of Natural Resources, Peterborough, ON.
- Jacobs, Clint. Species at Risk, Walpole Island Heritage Centre. Walpole Island First Nation.
- Jong, Catherine. Species at Risk Biologist, Aylmer District, Ontario Ministry of Natural Resources. Aylmer, ON.
- Lozon, Jake. Acting Stewardship Coordinator, Rural Lambton Stewardship Network, Ontario Ministry of Natural Resources.
- Risley, Chris. Birds and Mammal Species at Risk Biologist, Ministry of Natural Resources, Species at Risk Branch. Peterborough, ON.
- Sutherland, Don. Zoologist, Natural Heritage Information Centre, Ontario Ministry of Natural Resources. Peterborough, ON.
- Tuininga, Ken. Species at Risk Biologist, Canadian Wildlife Service – Ontario Region. Downsview, ON.

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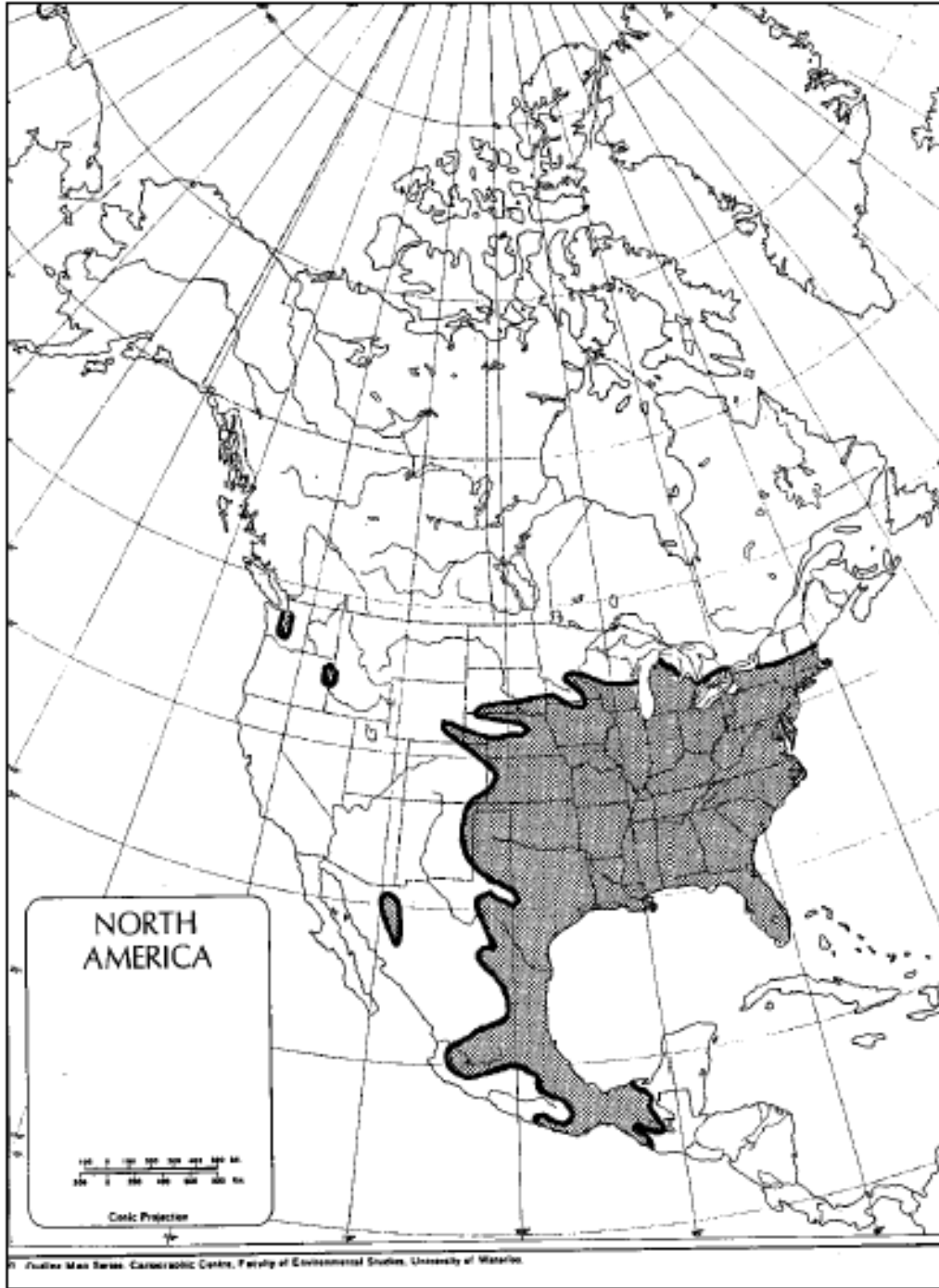


Figure 1. Global range of the Northern Bobwhite (adapted from Page and Austen 1994).

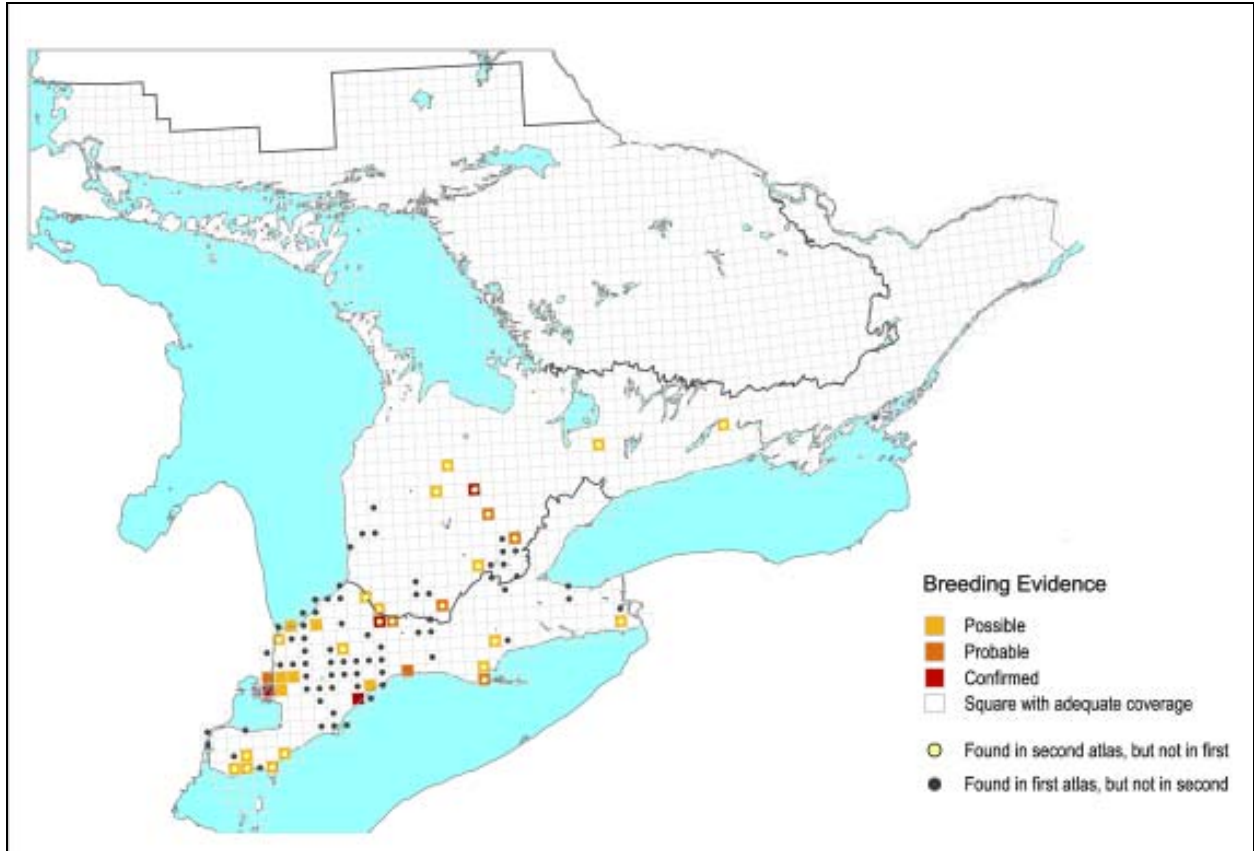


Figure 2. Breeding distribution of the Northern Bobwhite in Ontario in two time periods (2001-05 and 1981-85), based on the Ontario Breeding Bird Atlas (reproduced from Cadman *et al.* 2007). Squares with black dots are those in which the species was found in the first atlas period (1981-1985), but not in the second (2001-05). Those with yellow dots are occurrences in the second atlas, but not the first. Occurrences in both periods are confounded by records of non-native, released domestic stock, particularly in squares away from the vicinity of Lake St. Clair.

TECHNICAL SUMMARY

Colinus virginianus

Northern Bobwhite

Range of occurrence in Canada: Ontario

Colin de Virginie

Demographic Information

Generation time (usually average age of parents in the population; indicate if another method of estimating generation time indicated in the IUCN guidelines(2008) is being used)	2 – 3 yrs
Is there an [observed, inferred, or projected] continuing decline in number of mature individuals?	Unknown
Estimated percent of continuing decline in total number of mature individuals within [5 years or 2 generations]	Unknown (decline suspected)
[Observed, estimated, inferred, or suspected] percent [reduction or increase] in total number of mature individuals over the last [10 years, or 3 generations]. - Breeding Bird Survey results for the Lower Great Lakes-St. Lawrence Plain (including the northern USA) indicate a decline of 47% from 2000 to 2010. Breeding Bird Atlas data for Ontario indicate a 65% decline between 1985 and 2005, but this estimate is confounded by the inclusion of non-native, pen-reared stock.	Unknown rate of decline
[Projected or suspected] percent [reduction or increase] in total number of mature individuals over the next [10 years, or 3 generations].	Unknown
[Observed, estimated, inferred, or suspected] percent [reduction or increase] in total number of mature individuals over any [10 years, or 3 generations] period, over a time period including both the past and the future.	Unknown
Are the causes of the decline clearly reversible and understood and ceased?	No
Are there extreme fluctuations in number of mature individuals?	No

Extent and Occupancy Information

Estimated extent of occurrence	Less than 5000 km ²
Index of area of occupancy (IAO) (Always report 2x2 grid value).	Less than 500 km ²
Is the total population severely fragmented?	No
Number of locations*	One
Is there an [observed, inferred, or projected] continuing decline in extent of occurrence?	Unknown but likely
Is there an [observed, inferred, or projected] continuing decline in index of area of occupancy?	Unknown but likely
Is there an [observed, inferred, or projected] continuing decline in number of populations?	No
Is there an [observed, inferred, or projected] continuing decline in number of locations*?	No
Is there an observed, inferred, or projected continuing decline in area, extent and quality of habitat?	Yes
Are there extreme fluctuations in number of populations?	No
Are there extreme fluctuations in number of locations*?	No
Are there extreme fluctuations in extent of occurrence?	No

* See Definitions and Abbreviations on [COSEWIC website](#) and [IUCN 2010](#) for more information.

Are there extreme fluctuations in index of area of occupancy?	No
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Number of Mature Individuals (in each population)

Population	N Mature Individuals
Number of mature individuals	Unknown; last estimate for Walpole was 230 birds; no new information since then.
Total	230 (maximum)

Quantitative Analysis

Probability of extinction in the wild is at least [20% within 20 years or 5 generations, or 10% within 100 years].	Not done
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Threats (actual or imminent, to populations or habitats)

<ul style="list-style-type: none"> • Continued loss of agricultural grasslands and native prairie habitat • Degradation of habitat through increase in size of individual cultivated fields • Loss of fencerows, and loss and increasing isolation of bushy cover • Food sources depleted through insecticides and herbicides • Increasing predator (house cat, raccoon, fox, coyote, skunk, opossum) populations • Dilution of native gene pool through repeated reintroductions from non-native stocks
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Rescue Effect (immigration from outside Canada)

Status of outside population(s)? IUCN lists the species as “near threatened.” All populations in the adjacent U.S. are showing statistically significant declines over both the long term and short term.	
Is immigration known or possible? The Northern Bobwhite is a non-migratory species, which greatly impedes immigration.	Unlikely
Would immigrants be adapted to survive in Canada?	Yes
Is there sufficient habitat for immigrants in Canada?	Declining
Is rescue from outside populations likely?	No

Status History

Designated Endangered in April 1994. Status re-examined and confirmed in November 2003 and May 2013.
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Status and Reasons for Designation

Status: Endangered	Alpha-numeric Code: B1ab(iii)+2ab(iii); D1
Reasons for Designation: Owing to habitat loss, this grassland bird's population has declined dramatically over historical levels and shows no sign of recovery. There is only one viable population remaining in Canada, located on Walpole Island, Ontario. The status of this species is complicated by the presence of introduced pen-reared birds whose genetic composition is believed to pose a threat to the remaining native population.	

Applicability of Criteria

Criterion A (Decline in Total Number of Mature Individuals): Not applicable as there is insufficient information available to estimate reliable population trends.
Criterion B (Small Distribution Range and Decline or Fluctuation): Meets B1ab(iii)+2ab(iii) for Endangered because extent of occurrence is <5000 km ² , area of occupancy is <500 km ² , there are fewer than 5 locations, and there is a continuing observed decline in area, extent and quality of habitat.
Criterion C (Small and Declining Number of Mature Individuals): Not applicable as there is insufficient information to estimate current population trends.
Criterion D (Very Small or Restricted Total Population): Meets D1 for Endangered because the population is estimated to consist of <250 adults.
Criterion E (Quantitative Analysis): Not performed.



COSEWIC HISTORY

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) was created in 1977 as a result of a recommendation at the Federal-Provincial Wildlife Conference held in 1976. It arose from the need for a single, official, scientifically sound, national listing of wildlife species at risk. In 1978, COSEWIC designated its first species and produced its first list of Canadian species at risk. Species designated at meetings of the full committee are added to the list. On June 5, 2003, the *Species at Risk Act* (SARA) was proclaimed. SARA establishes COSEWIC as an advisory body ensuring that species will continue to be assessed under a rigorous and independent scientific process.

COSEWIC MANDATE

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) assesses the national status of wild species, subspecies, varieties, or other designatable units that are considered to be at risk in Canada. Designations are made on native species for the following taxonomic groups: mammals, birds, reptiles, amphibians, fishes, arthropods, molluscs, vascular plants, mosses, and lichens.

COSEWIC MEMBERSHIP

COSEWIC comprises members from each provincial and territorial government wildlife agency, four federal entities (Canadian Wildlife Service, Parks Canada Agency, Department of Fisheries and Oceans, and the Federal Biodiversity Information Partnership, chaired by the Canadian Museum of Nature), three non-government science members and the co-chairs of the species specialist subcommittees and the Aboriginal Traditional Knowledge subcommittee. The Committee meets to consider status reports on candidate species.

DEFINITIONS (2013)

Wildlife Species	A species, subspecies, variety, or geographically or genetically distinct population of animal, plant or other organism, other than a bacterium or virus, that is wild by nature and is either native to Canada or has extended its range into Canada without human intervention and has been present in Canada for at least 50 years.
Extinct (X)	A wildlife species that no longer exists.
Extirpated (XT)	A wildlife species no longer existing in the wild in Canada, but occurring elsewhere.
Endangered (E)	A wildlife species facing imminent extirpation or extinction.
Threatened (T)	A wildlife species likely to become endangered if limiting factors are not reversed.
Special Concern (SC)*	A wildlife species that may become a threatened or an endangered species because of a combination of biological characteristics and identified threats.
Not at Risk (NAR)**	A wildlife species that has been evaluated and found to be not at risk of extinction given the current circumstances.
Data Deficient (DD)***	A category that applies when the available information is insufficient (a) to resolve a species' eligibility for assessment or (b) to permit an assessment of the species' risk of extinction.

* Formerly described as "Vulnerable" from 1990 to 1999, or "Rare" prior to 1990.

** Formerly described as "Not In Any Category", or "No Designation Required."

*** Formerly described as "Indeterminate" from 1994 to 1999 or "ISIBD" (insufficient scientific information on which to base a designation) prior to 1994. Definition of the (DD) category revised in 2006.



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